

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 October 2004 (07.10.2004)

PCT

(10) International Publication Number
WO 2004/084932 A3

(51) International Patent Classification⁷: **A61K 38/17**,
38/19, 38/21, A61P 25/02, 9/10 // (A61K 38/17, 31:727)

(21) International Application Number:
PCT/EP2004/050372

(22) International Filing Date: 26 March 2004 (26.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03100833.7 28 March 2003 (28.03.2003) EP

(71) Applicant (*for all designated States except US*): **AP-
PLIED RESEARCH SYSTEMS ARS HOLDING N.V.**
[NL/NL]; Pietermaai 15, Curacao (AN).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **FEGGER, Georg**
[DE/FR]; 91, rue des Tourterelles, F-01710 Thoiry (FR).
BOSCHERT, Ursula [DE/CH]; Route d'Annecy 100C,
CH-1256 Troinex (CH). **SAGOT, Yves** [FR/FR]; 185 Al-
lée des Colchiques, F-74160 Beaumont (FR). **PAPOIAN,**
Ruben [US/CH]; Güterstrasse 213, CH-4053 Basel (CH).

(74) Agent: **SERONO INTERNATIONAL S.A. INTEL-
LECTUAL PROPERTY**; 12, Chemin des Aulx, CH-1228
Plan-les-Ouates (CH).

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), Euro-
pean (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR,
GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
29 December 2004

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: **USE OF CLUSTERIN FOR THE TREATMENT AND/OR PREVENTION OF PERIPHERAL NEUROLOGICAL DIS-
EASES**

(57) Abstract: The invention relates to the use of clusterin, or of an agonist of clusterin activity, for treatment or prevention of peripheral neurological diseases, The invention further relates to the use of a combination of clusterin and heparin, for treatment or prevention of peripheral neurological diseases.



WO 2004/084932 A3

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K38/17 A61K38/19 A61K38/21 A61P25/02 A61P9/10
//(A61K38/17,31:727)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, BIOSIS, MEDLINE, EMBASE, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| Y | BONNARD ANNE-SOPHIE ET AL: "Expression of clusterin and C4 mRNA during rat peripheral nerve regeneration." IMMUNOPHARMACOLOGY, vol. 38, no. 1-2, December 1997 (1997-12), pages 81-86, XP002254399 ISSN: 0162-3109 page 85, right-hand column - page 86, left-hand column ----- -/-- | 1-25 |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

13 October 2004

Date of mailing of the international search report

20/10/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Deck, A

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| Y | <p>GIANNAKOPOULOS P ET AL: "Possible neuroprotective role of clusterin in Alzheimer's disease: A quantitative immunocytochemical study." ACTA NEUROPATHOLOGICA, vol. 95, no. 4, April 1998 (1998-04), pages 387-394, XP002254400 ISSN: 0001-6322 page 392, left-hand column, paragraph 4 - page 393</p> | 1-25 |
| A | <p>ROSENBERG M E ET AL: "CLUSTERIN: PHYSIOLOGIC AND PATHOPHYSIOLOGIC CONSIDERATIONS" INTERNATIONAL JOURNAL OF BIOCHEMISTRY AND CELL BIOLOGY, EXETER, GB, vol. 27, no. 7, 1995, pages 633-645, XP001002844 ISSN: 1357-2725 the whole document</p> | 1-25 |
| A | <p>WO 02/092122 A (FEGER GEORG ;PAPOIAN RUBEN (CH); BOSCHERT URSULA (CH); BERNASCONI) 21 November 2002 (2002-11-21) the whole document</p> | 11,20, 21,24,25 |
| A | <p>EP 0 513 513 A (ALFA WASSERMANN SPA) 19 November 1992 (1992-11-19) claims</p> | 10,19,23 |
| A | <p>US 2002/040013 A1 (UZAN ANDRE ET AL) 4 April 2002 (2002-04-04) the whole document</p> | 10,19,23 |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2004/050372

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 22 - 25 are directed to a method of treatment of the human/animal body (Article 52(4) EPC), the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|----|---------------------|----------------------------|---------------------|
| WO 02092122 | A | 21-11-2002 | BR 0209812 A | 01-06-2004 |
| | | | CA 2443964 A1 | 21-11-2002 |
| | | | CZ 20033109 A3 | 16-06-2004 |
| | | | EE 200300559 A | 16-02-2004 |
| | | | WO 02092122 A2 | 21-11-2002 |
| | | | EP 1389130 A2 | 18-02-2004 |
| | | | HU 0400005 A2 | 28-04-2004 |
| | | | NO 20035025 A | 12-11-2003 |
| | | | SK 14232003 A3 | 04-05-2004 |
| EP 0513513 | A | 19-11-1992 | IT 1245907 B | 25-10-1994 |
| | | | CA 2066785 A1 | 18-11-1992 |
| | | | DE 69212620 D1 | 12-09-1996 |
| | | | DE 69212620 T2 | 28-11-1996 |
| | | | EP 0513513 A1 | 19-11-1992 |
| | | | KR 9705181 B1 | 14-04-1997 |
| | | | US 5236910 A | 17-08-1993 |
| US 2002040013 | A1 | 04-04-2002 | FR 2787329 A1 | 23-06-2000 |
| | | | AT 273711 T | 15-09-2004 |
| | | | AU 1569700 A | 03-07-2000 |
| | | | CA 2354762 A1 | 22-06-2000 |
| | | | DE 69919578 D1 | 23-09-2004 |
| | | | EP 1140119 A1 | 10-10-2001 |
| | | | WO 0035462 A1 | 22-06-2000 |
| | | | JP 2002532431 T | 02-10-2002 |
| | | | NO 20012849 A | 08-06-2001 |
| | | | US 2003236222 A1 | 25-12-2003 |
| | | | US 2004038938 A1 | 26-02-2004 |